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## VMware VSphere 5.1 - Fast Track

**Course Duration:** 5 days

**Overview:** This course focuses on installing, configuring, and managing VMware vSphere® 5.1. This course combines the content of the VMware vSphere: Install, Configure, Manage course with advanced tasks and skills for configuring a virtual infrastructure.

### **Outline:**

#### **Lesson 1 - Course Introduction**

Introductions and course logistics  
Course objectives

#### **Lesson 2 - Introduction to VMware Virtualization**

Introduce virtualization and vSphere components  
Explain the concepts of server, network, and storage virtualization  
Describe where vSphere fits into the cloud architecture  
Install and use vSphere user interfaces  
Describe the ESXi architecture and configure various ESXi settings

#### **Lesson 3 - Creating Virtual Machines**

Introduce virtual machines, virtual machine hardware, and virtual machine files  
Deploy a single virtual machine

#### **Lesson 4 - VMware vCenter Server**

Introduce vCenter Server architecture  
Manage vCenter Server inventory objects and licenses

#### **Lesson 5 - Configuring and Managing Virtual Networks**

Describe, create, and manage a standard switch  
Describe and modify standard switch properties  
Configure virtual switch load-balancing algorithms

#### **Lesson 6 - Configuring and Managing Virtual Storage**

Introduce storage protocols and device names  
Configure ESXi with iSCSI, NFS, and Fibre Channel storage  
Create and manage VMware vSphere® VMFS datastores  
Introduce VMware vSphere® Storage Appliance

#### **Lesson 7 - Virtual Machine Management**

Use templates and cloning to deploy virtual machines  
Modify and manage virtual machines  
Create and manage virtual machine snapshots



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Perform VMware vSphere® vMotion® and VMware vSphere® Storage vMotion® migrations  
Create a VMware vSphere® vApp™  
Use VMware® vCenter™ Converter™ Standalone to hot-clone a system

#### **Lesson 8 - Access and Authentication Control**

Control user access through roles and permissions  
Discuss ESXi host access and authentication  
Integrate ESXi with Active Directory  
Introduce VMware® vShield™ products

#### **Lesson 9 - Resource Management and Monitoring**

Introduce virtual CPU and memory concepts  
Describe methods for optimizing CPU and memory usage  
Configure and manage resource pools  
Use vCenter Server performance graphs and alarms to monitor resource usage

#### **Lesson 10 - High Availability and Fault Tolerance**

Explain the vSphere HA architecture  
Configure and manage a vSphere HA cluster  
Set vSphere HA advanced parameters  
Enable FT on a virtual machine

#### **Lesson 11 - Host Scalability**

Use host profiles to manage ESXi configuration compliance  
Configure and manage a VMware vSphere® Distributed Resource Scheduler™ cluster  
Configure Enhanced vMotion Compatibility  
Use vSphere HA and vSphere DRS together  
Configure and manage VMware vSphere® Distributed Power Management™

#### **Lesson 12 - Network Scalability**

Create, configure, and manage vSphere distributed switches, network connections, and port groups  
Discuss distributed switch features, such as private VLANs, discovery protocols, VMware vSphere® Network I/O Control, NetFlow, and port mirroring

#### **Lesson 13 - Storage Scalability**

Describe VMware vSphere® Storage APIs - Array Integration and Storage Awareness  
Explain profile-driven storage  
Add a storage policy to a virtual machine storage profile  
Introduce VMware vSphere® Storage I/O Control  
Create a datastore cluster  
Configure Storage DRS

#### **Lesson 14 - Data Protection**

Discuss a strategy for backing up ESXi hosts and vCenter Server  
Introduce VMware vSphere® Data Protection™

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Discuss solutions for efficiently backing up virtual machines

### **Lesson 15 - Patch Management**

- Use Update Manager to manage ESXi patching
- Install Update Manager and the Update Manager plug-in
- Create patch baselines
- Scan and remediate hosts

### **Lesson 16 - VMware vSphere Management Assistant**

- Describe vMA
- Configure vMA
- Discuss the VMware vSphere® Command-Line Interface command set
- Perform command-line operations for host management, network management, storage management, and performance monitoring

### **Lesson 17 - Installing VMware Components**

- Describe vCenter Linked Mode to manage multiple vCenter Server inventories
- Introduce ESXi installation
- Describe boot-from-SAN requirements
- Describe vCenter Server hardware, software, and database requirements
- Install vCenter Server (Windows-based)
- Introduce vCenter Server Appliance
- Install and configure vCenter Server Appliance
- Use Image Builder to create an ESXi installation image
- Use VMware vSphere® Auto Deploy™ to deploy a stateless ESXi host